

CLAIMS

1. Make-up cosmetic composition comprising:
a liquid continuous fatty phase structured
with at least one structuring polymer having a weight-
average molecular mass ranging from 500 to 500 000,
containing at least one moiety comprising:

- at least one polyorganosiloxane group
consisting of 1 to 1 000 organosiloxane
units in the chain of the moiety or in
the form of a graft, and
- at least two groups capable of
establishing hydrogen interactions,
chosen from ester, amide, sulphonamide,
carbamate, thiocarbamate, urea,
urethane, thiourea, oxamido, guanidino
and biguanidino groups, and combinations
thereof,
- the polymer being solid at room
temperature and soluble in the liquid
fatty phase at a temperature of 25 to
250°C,

the said liquid fatty phase comprising at least
one compound capable of reducing the enthalpy of fusion
of the structuring polymer,

the said composition containing at least one
pigment, and

the liquid fatty phase, the structuring polymer
and the compound capable of reducing the enthalpy of
fusion of the structuring polymer forming a
physiologically acceptable medium.

2. Composition according to Claim 1, in which the liquid fatty phase comprises at least one hydrocarbon oil.

3. Composition according to either of Claims 1 and 2, in which the liquid fatty phase comprises at least one silicone oil.

4. Composition according to any one of the preceding claims, in which the liquid fatty phase comprises at least one volatile oil having a flash point ranging from 35 to 135°C.

5. Composition according to any one of the preceding claims, in which the liquid fatty phase comprises at least one volatile oil having a vapour pressure ranging from 0.01 to 300 mmHg, at 25°C.

6. Composition according to Claim 4 or 5, in which the volatile oil is chosen from isododecane, isohexadecane, C₈-C₁₆ isoparaffins, isohexyl neopentanoate and isodecyl neopentanoate.

7. Composition according to either of Claims 4 and 5, in which the volatile oil is chosen from the group consisting of the following compounds: isododecane, octyltrimethicone, hexyltrimethicone, decamethylcyclopentasiloxane D5, octamethylcyclotetrasiloxane D4, dodecamethylcyclohexasiloxane D6, heptamethyloctyltrisiloxane, decamethyltetrasiloxane, dodecamethylpentasiloxane,

polydimethylsiloxane of 1.5 cSt (25°C), polydimethylsiloxane of 2 cSt (25°C), polydimethylsiloxane of 3 cSt (25°C), polydimethylsiloxane of 5 cSt (25°C), and mixtures thereof.

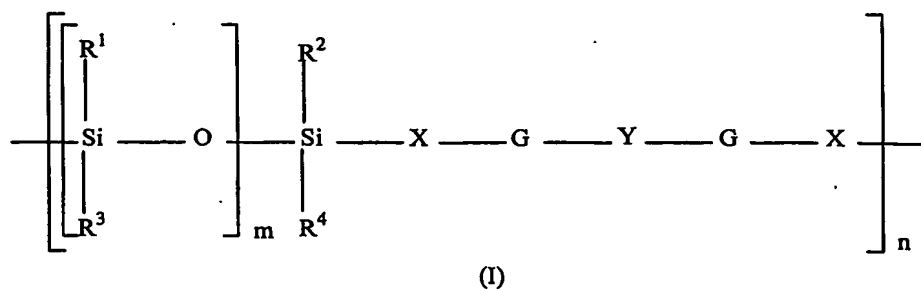
8. Composition according to either of Claims 4 and 5, in which the volatile oil is chosen from perfluoropolyethers, perfluoroalkanes, perfluoroadamantanes, esters of perfluoroalkyl phosphates and fluorinated ester oils.

9. Composition according to any one of the preceding claims, in which the liquid fatty phase comprises a nonvolatile silicone oil.

10. Composition according to any one of Claims 2 to 9, in which the liquid fatty phase contains at least 30%, and even better at least 40% by weight of silicone oil.

11. Composition according to Claim 4 or 5, in which the volatile oil represents from 3 to 89.4%, preferably from 5 to 60%, for example from 5 to 10%, of the total weight of the composition.

12. Composition according to any one of Claims 1 to 11, in which the structuring polymer comprises at least one moiety corresponding to the formula:

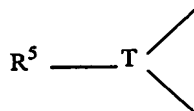


in which:

- 1) R^1 , R^2 , R^3 and R^4 , which may be identical or different, represent a group chosen from:
 - linear, branched or cyclic, saturated or unsaturated, C_1 to C_{40} hydrocarbon-based groups, possibly containing in their chain one or more oxygen, sulphur and/or nitrogen atoms, and possibly being partially or totally substituted with fluorine atoms,
 - C_6 to C_{10} aryl groups, optionally substituted with one or more C_1 to C_4 alkyl groups,
 - polyorganosiloxane chains possibly containing one or more oxygen, sulphur and/or nitrogen atoms;
- 2) the groups X, which may be identical or different, represent a linear or branched C_1 to C_{30} alkylenediyl group, possibly containing in its chain one or more oxygen and/or nitrogen atoms;
- 3) Y is a saturated or unsaturated, C_1 to C_{50} linear or branched divalent alkylene, arylene, cycloalkylene, alkylarylene or arylalkylene group, possibly comprising one

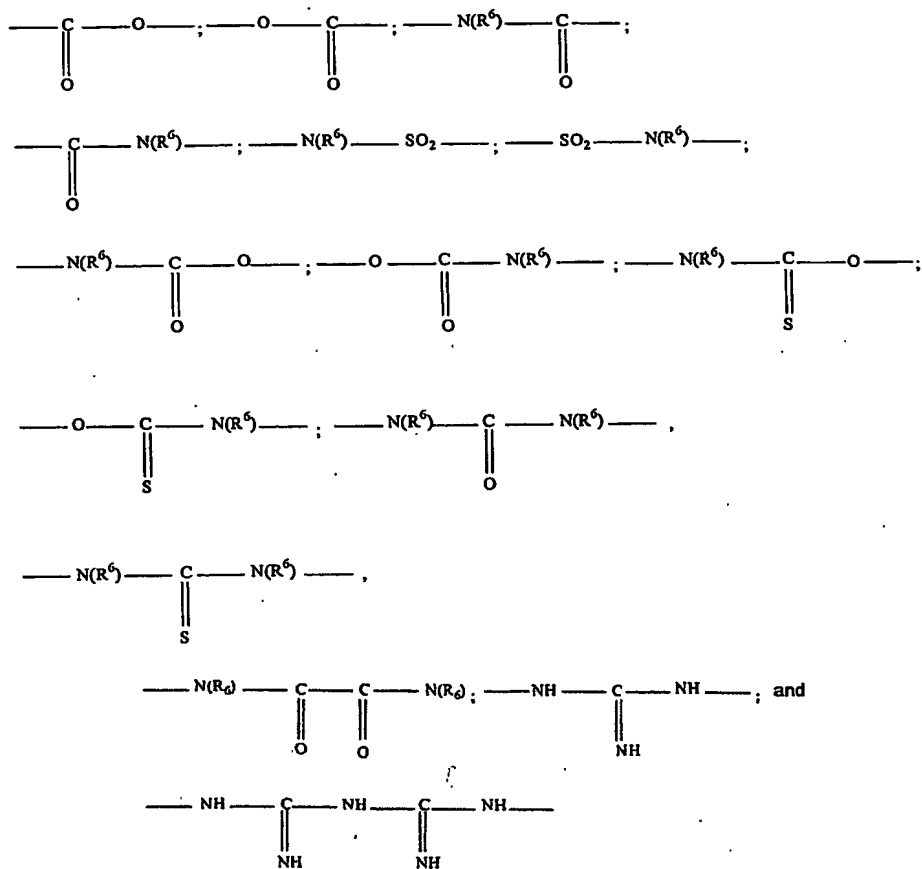
or more oxygen, sulphur and/or nitrogen atoms, and/or bearing as substituent one of the following atoms or groups of atoms: fluorine, hydroxyl, C₃ to C₈ cycloalkyl, C₁ to C₄₀ alkyl, C₅ to C₁₀ aryl, phenyl optionally substituted with 1 to 3 C₁ to C₃ alkyl groups, C₁ to C₃ hydroxyalkyl and C₁ to C₆ aminoalkyl, or

10 4) Y represents a group corresponding to the formula:

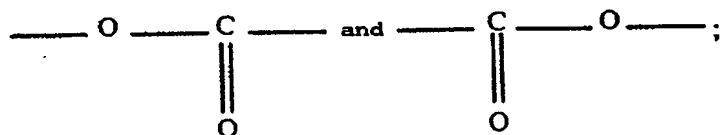


in which

- T represents a linear or branched, saturated or unsaturated, C₃ to C₂₄ trivalent or tetravalent hydrocarbon-based group optionally substituted with a polyorganosiloxane chain, and possibly containing one or more atoms chosen from O, N and S, or T represents a
- 20 trivalent atom chosen from N, P and Al, and
- R⁵ represents a linear or branched C₁ to C₅₀ alkyl group or a polyorganosiloxane chain, possibly comprising one or more ester, amide, urethane, thiocarbamate, urea, thiourea and/or sulphonamide groups, which may possibly be linked to another chain of the polymer;
- 5) the groups G, which may be identical or different, represent divalent groups chosen from:



in which R^6 represents a hydrogen atom or a linear or branched C_1 to C_{20} alkyl group, on condition that at least 50% of the groups R^6 of the polymer represent a hydrogen atom and that at least two of the groups G of the polymer are a group other than:

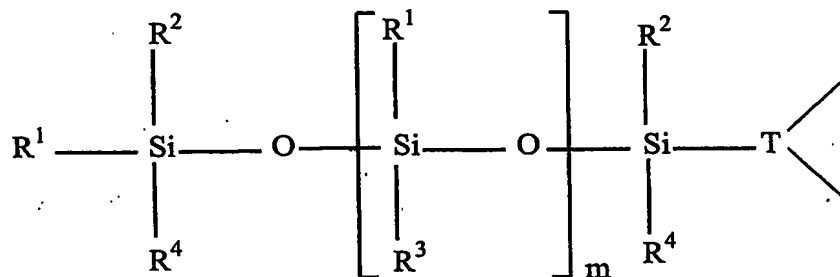


6) n is an integer ranging from 2 to 500 and preferably from 2 to 200, and m is an integer

ranging from 1 to 1 000, preferably from 1 to 700 and better still from 6 to 200.

13. Composition according to Claim 12, in which Y represents a group chosen from:

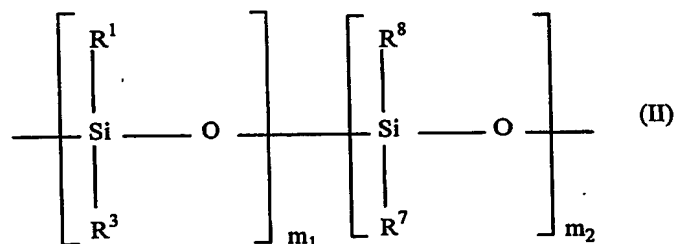
- a) linear C₁ to C₂₀ and preferably C₁ to C₁₀ alkylene groups,
- b) C₃₀ to C₅₆ branched alkylene groups possibly comprising rings and unconjugated unsaturations,
- 10 c) C₅-C₆ cycloalkylene groups,
- d) phenylene groups optionally substituted with one or more C₁ to C₄₀ alkyl groups,
- e) C₁ to C₂₀ alkylene groups comprising from 1 to 5 amide groups,
- f) C₁ to C₂₀ alkylene groups comprising one or more substituents chosen from hydroxyl, C₃ to C₈ cycloalkane, C₁ to C₃ hydroxyalkyl and C₁ to C₆ alkylamine groups, and
- g) polyorganosiloxane chains of formula:



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in which R¹, R², R³, R⁴, T and m are as defined above.

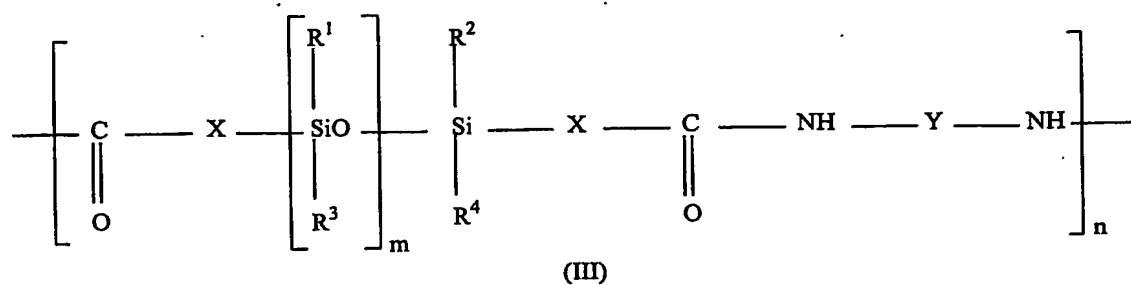
14. Composition according to any one of Claims 1 to 11, in which the structuring polymer comprises at least one moiety corresponding to formula (II):



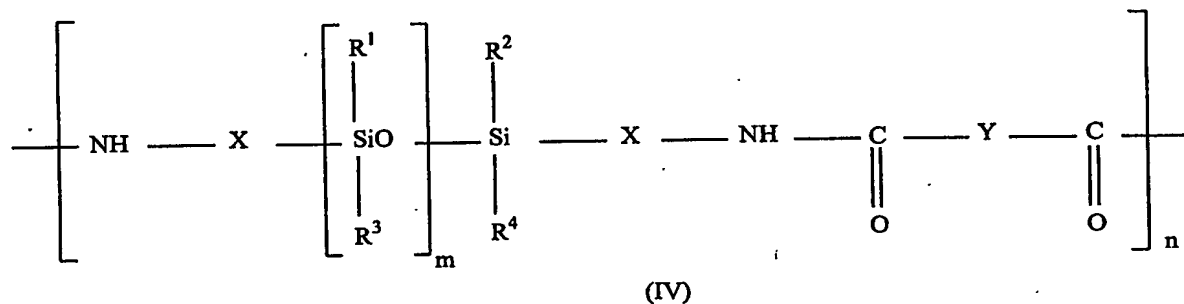
in which

- R¹ and R³, which may be identical or different, are as defined above for formula (I) in Claim 12,
- R⁷ represents a group as defined above for R¹ and R³, or represents the group of formula -X-G-R⁹ in which X and G are as defined above for formula (I) in Claim 12, and R⁹ represents a hydrogen atom or a linear, branched or cyclic, saturated or unsaturated, C₁ to C₅₀ hydrocarbon-based group optionally comprising in its chain one or more atoms chosen from O, S and N, optionally substituted with one or more fluorine atoms and/or one or more hydroxyl groups, or a phenyl group optionally substituted with one or more C₁ to C₄ alkyl groups,
- R⁸ represents the group of formula -X-G-R⁹ in which X, G and R⁹ are as defined above,
- m₁ is an integer ranging from 1 to 998, and
- m₂ is an integer ranging from 2 to 500.

15. Composition according to Claim 12, in which the polymer comprises at least one moiety of formula (III) or (IV):



or



in which R^1 , R^2 , R^3 , R^4 , X, Y, m and n are as defined in Claim 12.

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16. Composition according to any one of Claims 12 to 15, in which X and/or Y represent an alkylene group containing in its alkylene portion at least one of the following elements:

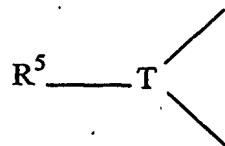
- 1) 1 to 5 amide, urea or carbamate groups,
- 2) a C_5 or C_6 cycloalkyl group, and
- 3) a phenylene group optionally substituted with 1 to 3 identical or different C_1 to C_3 alkyl groups, and/or substituted with at least one element chosen from the group consisting of:

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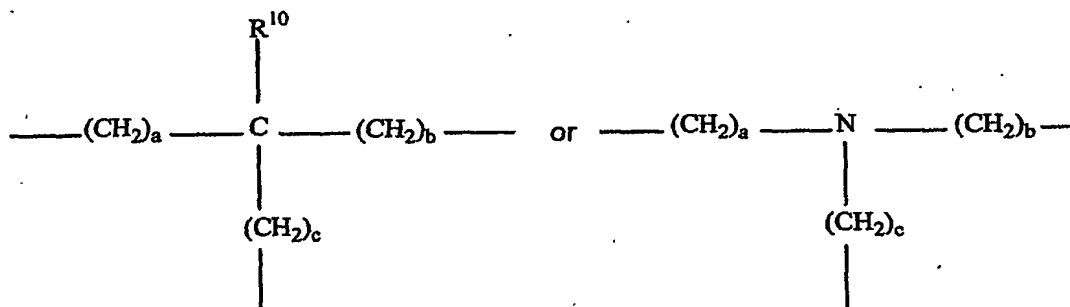
- a hydroxyl group,
- a C_3 to C_8 cycloalkyl group,
- one to three C_1 to C_{40} alkyl groups,

- a phenyl group optionally substituted with one to three C₁ to C₃ alkyl groups,
- a C₁ to C₃ hydroxyalkyl group, and
- a C₁ to C₆ aminoalkyl group.

17. Composition according to any one of Claims 12 to 15, in which Y represents:



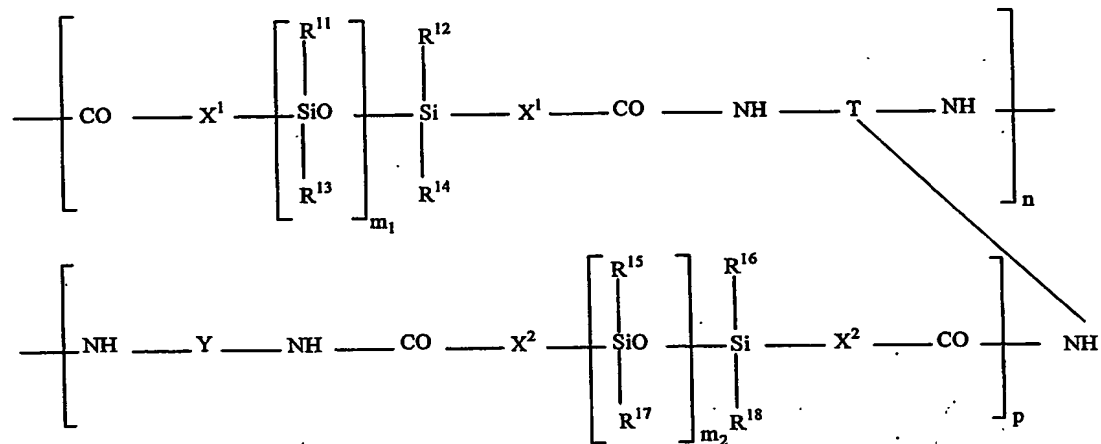
in which R⁵ represents a polyorganosiloxane chain and T represents a group of formula:



in which a, b and c are, independently, integers ranging from 1 to 10, and R¹⁰ is a hydrogen atom or a group such as those defined for R¹, R², R³ and R⁴, in Claim 12.

18. Composition according to any one of Claims 12 to 15, in which R¹, R², R³ and R⁴ represent, independently, a linear or branched C₁ to C₄₀ alkyl group, preferably a CH₃, C₂H₅, n-C₃H₇ or isopropyl group, a polyorganosiloxane chain or a phenyl group optionally substituted with one to three methyl or ethyl groups.

19. Composition according to any one of Claims 1 to 11, in which the structuring polymer comprises at least one moiety of formula:



(VII)

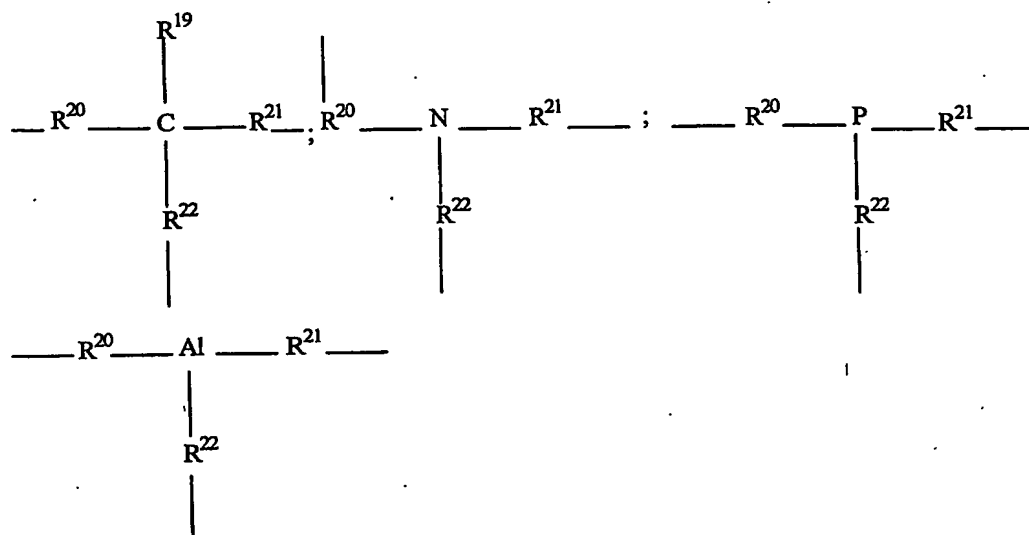
in which X^1 and X^2 , which are identical or different, have the meaning given for X in Claim 12, n, Y and T are as defined in Claim 12, R^{11} to R^{18} are groups chosen from the same group as R^1 to R^4 in Claim 12, m_1 and m_2 are numbers in the range from 1 to 1 000, and p is an integer ranging from 2 to 500.

20. Composition according to Claim 19, in which:

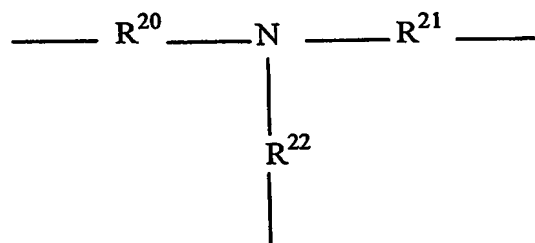
- p is in the range from 1 to 25 and better still from 1 to 7,

- R^{11} to R^{18} are methyl groups,

- T corresponds to one of the following formulae:



in which R^{19} is a hydrogen atom or a group chosen from the groups defined for R^1 to R^4 , and R^{20} , R^{21} and R^{22} are, independently, linear or branched alkylene groups, and more preferably corresponds to the formula:



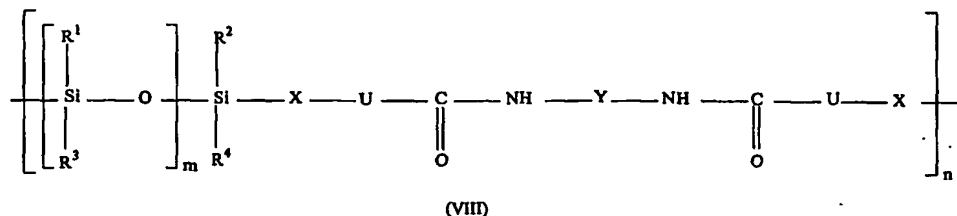
in particular with R^{20} , R^{21} and R^{22} representing $-\text{CH}_2-\text{CH}_2-$,

- m_1 and m_2 are in the range from 15 to 500 and
10 better still from 15 to 45,

- X^1 and X^2 represent $-(\text{CH}_2)_{10}-$, and

- Y represents $-\text{CH}_2-$.

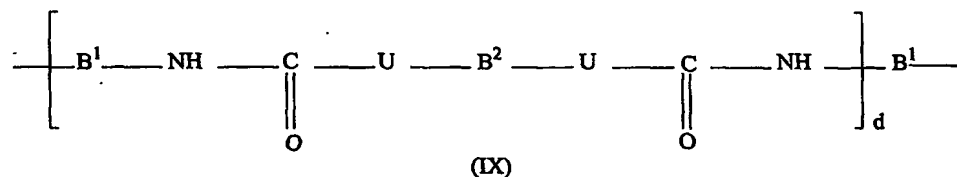
21. Composition according to any one of Claims 1 to 11, in which the structuring polymer comprises at least one moiety corresponding to the following formula:



in which R^1 , R^2 , R^3 , R^4 , X , Y , m and n have the meanings given above for formula (I) in Claim 12, and U represents $-\text{O}-$ or $-\text{NH}-$, or

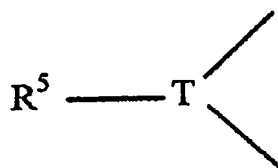
Y represents a C_5 to C_{12} cycloaliphatic or aromatic group that may be substituted with a C_1 to C_{15} alkyl group or a C_5 to C_{10} aryl group, for example a radical
 10 chosen from the methylene-4,4-biscyclohexyl radical, the radical derived from isophorone diisocyanate, 2,4- and 2,6-tolylenes, 1,5-naphthylene, p-phenylene and 4,4'-biphenylenemethane, or Y represents a linear or branched C_1 to C_{40} alkylene radical or a C_4 to C_{12} cycloalkylene radical, or

Y represents a polyurethane or polyurea block corresponding to the condensation of several diisocyanate molecules with one or more molecules of coupling agents of the diol or diamine type,
 20 corresponding to the formula:



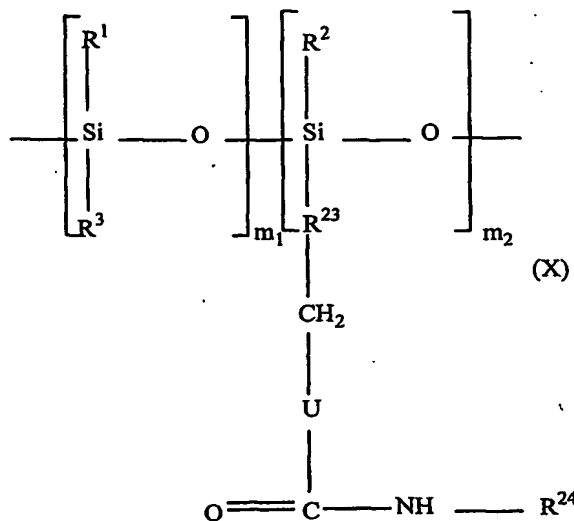
in which d is an integer from 0 to 5, B^1 is a group chosen from the groups given above for Y , U is $-\text{O}-$ or $-\text{NH}-$ and B^2 is chosen from:

- C₅ to C₁₂ cycloalkylene groups, optionally bearing alkyl substituents, for example one to three methyl or ethyl groups, or alkylene substituents, for example the diol radical: cyclohexanedimethanol,
- phenylene groups that may optionally bear C₁ to C₃ alkyl substituents, and
- groups of formula:



10 in which T is a hydrocarbon-based trivalent radical possibly containing one or more heteroatoms such as oxygen, sulphur and nitrogen and R⁵ is a polyorganosiloxane chain or a linear or branched C₁ to C₅₀ alkyl chain.

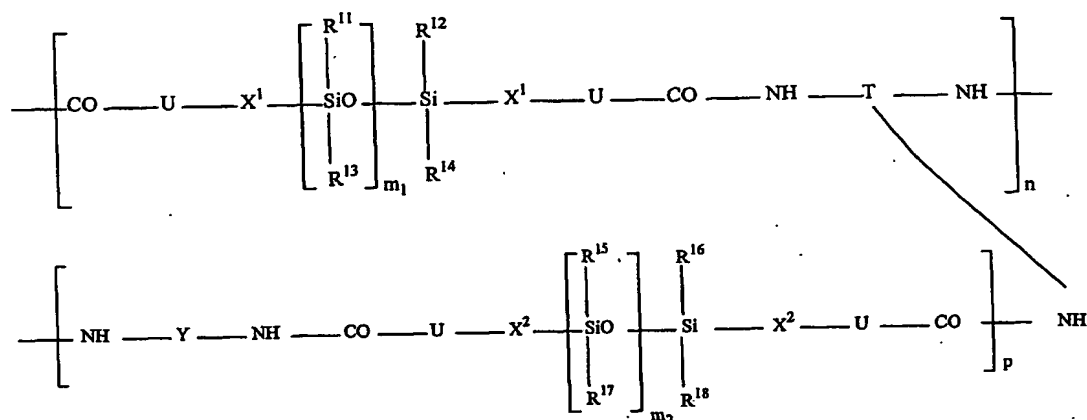
22. Composition according to any one of Claims 1 to 11, in which the structuring polymer comprises at least one moiety of formula:



in which R^1 , R^2 , R^3 , m_1 and m_2 have the meanings given for formula (I) in Claim 12,

- U represents O or NH,
- R^{23} represents a C_1 to C_{40} alkylene group, optionally comprising one or more heteroatoms chosen from O and N, or a phenylene group, and
- R^{24} is chosen from linear, branched or cyclic, saturated or unsaturated C_1 to C_{50} alkyl groups, and phenyl groups optionally substituted with one to three C_1 to C_3 alkyl groups.

23. Composition according to any one of Claims 1 to 11, in which the polymer used in the structuring system comprises at least one moiety of formula:



(XIII)

in which X^1 and X^2 , which are identical or different, have the meaning given for X in Claim 12, n, Y and T are as defined in Claim 12, R^{11} to R^{18} are groups chosen from the same group as R^1 to R^4 in Claim 12, m_1 and m_2 are numbers in the range from 1 to 1 000, and p is an integer ranging from 2 to 500.

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24. Composition according to any one of Claims 12 to 23, in which the structuring system further comprises a hydrocarbon-based moiety comprising two groups capable of establishing hydrogen interactions, chosen from ester, amide, sulphonamide, carbamate, thiocarbamate, urea, urethane, thiourea, oxamido, guanidino and biguanidino groups, and combinations thereof.

25. Composition according to Claim 24, in which the copolymer is a block copolymer or a graft copolymer.

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26. Composition according to any one of the preceding claims, in which the polymer represents from 0.5 to 80% of the total weight of the composition, preferably from 2 to 60% of the total weight of the composition.

27. Composition according to the preceding claim, in which the polymer represents from 5 to 40% of the total weight of the composition.

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28. Composition according to any one of the preceding claims, in which the liquid fatty phase represents from 5 to 99% of the total weight of the composition and even better from 20 to 75% of the total weight of the composition.

29. Composition according to any one of the preceding claims, in which the compound(s) capable of lowering the enthalpy of fusion is(are) present in a
20 sufficient quantity to cause a lowering of the enthalpy of fusion of the structuring polymer.

30. Composition according to Claim 29, in which the lowering of the enthalpy of fusion is by at least 3 J/g of pure polymer, preferably at least 4 J/g of pure polymer, preferably still 5 to 10 J/g.

31. Composition according to any one of Claims 29 to 30, in which the said compound(s) capable
30 of lowering the enthalpy of fusion (ΔH) of the structuring polymer is(are) additionally capable of

lowering the melting temperature of the structuring polymer.

32. Composition according to Claim 31, in which the compound(s) is(are) present in a sufficient quantity to cause the lowering of the melting temperature of the structuring polymer.

10 33. Composition according to Claim 32, in which the lowering of the melting temperature of the structuring polymer is at least 3°C, preferably at least 4°C, even better from 5 to 20°C.

34. Composition according to any one of Claims 29 to 33, in which the compound(s) capable of lowering the enthalpy of fusion and possibly the melting temperature of the structuring polymer are compounds leading to a macroscopically homogeneous composition and/or which are soluble or dispersible in
20 the fatty phase of the composition.

35. Composition according to any one of Claims 29 to 34, in which the said compound(s) which lower the enthalpy of fusion of the structuring polymer additionally lower the melting temperature of the structuring polymer, and lead to a macroscopically homogeneous composition.

36. Composition according to any one of the
30 preceding claims, in which the compound(s) capable of causing a lowering of the enthalpy of fusion and

possibly the melting temperature of the structuring polymer is(are) chosen from hydrocarbon and/or silicone compounds comprising at least one functional group comprising at least one free electron pair capable of interacting with the hydrogen bonds of the polymer.

37. Composition according to Claim 36, in which the said hydrocarbon and/or silicone compounds comprise at least one functional group chosen from
10 hydroxyl, carboxyl, amino, primary, secondary and tertiary amine, urea and urethane, ether and ester functional groups.

38. Composition according to Claim 36 or Claim 37, in which the compound(s) capable of causing a decrease in the enthalpy of fusion, and possibly in the melting temperature of the structuring polymer are chosen from monoalcohols, polyols, such as diols and triols, and polyol ethers.
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39. Composition according to Claim 38, in which the compound(s) capable of causing a decrease in the enthalpy of fusion and possibly the melting temperature of the structuring polymer are chosen from silicone diols.

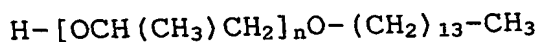
40. Composition according to Claim 38, in which the compound(s) capable of causing a decrease in the enthalpy of fusion and possibly in the melting
30 temperature of the structuring polymer is(are) chosen from compounds of the oxyalkylenated

polydi(alkyl)siloxane type, in which the alkyl group of the siloxane have from 1 to 4 carbon atoms and the alkylene group has from 1 to 4 carbon atoms.

41. Composition according to Claim 38, in which the alkyl groups of the polydi(alkyl)siloxane are methyl groups and the oxyalkylene groups are oxypropylene and/or oxyethylene groups and the compounds are PDMS oxypropylene and/or oxyethylene.

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42. Composition according to Claim 38, in which the compound(s) capable of causing a decrease in the enthalpy of fusion and optionally the melting temperature is (are) chosen from monoalkyl ethers of polyalkylene (1-4 carbon atoms) glycols, for example monoalkyl ethers of polypropylene glycol or of polyalkylene glycol, such as the monomyristyl ether of the glycol polymer of formula:



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with $n = 2$ to 200.

43. Composition according to Claim 38, in which the compound(s) capable of causing a decrease in the enthalpy of fusion and possibly in the melting temperature of the structuring polymer is(are) chosen from linear or branched aliphatic monoalcohols having more than 8 carbon atoms.

44. Composition according to Claim 40, in which the compound is octyldodecanol.

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45. Composition according to any one of Claims 1 to 44, in which the content of compound or of compound(s) capable of lowering the enthalpy of fusion and possibly the melting temperature of the structuring polymer(s) is generally from 5 to 25% by weight, preferably from 10 to 20% by weight.

46. Composition according to any one of the preceding claims, in which the structuring
10 polymer/compound capable of lowering the enthalpy of fusion and possibly the melting temperature of the structuring polymer mass ratio is in the range from 0.1 to 50, preferably from 0.5 to 25, and even better from 1 to 15.

47. Composition according to any one of the preceding claims, characterized in that it comprises, in addition, at least one cosmetic or dermatological active agent.
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48. Composition according to Claim 47, characterized in that the active agent is chosen from essential oils, vitamins, moisturizers, sunscreens, cicatrizing agents and ceramides.

49. Composition according to any one of the preceding claims, characterized in that it comprises at least one additive chosen from fillers, antioxidants, preservatives and perfumes.

50. Composition according to Claim 1, in which the pigment is chosen from zinc oxides, iron oxides, titanium oxides and mixtures thereof.

51. Composition according to any one of the preceding claims, characterized in that it additionally comprises a dye.

52. Composition according to any one of the preceding claims, characterized in that it is provided in the form of a transparent gel or of a transparent stick.

53. Make-up structured solid composition for the skin, the lips and/or the superficial body growths, containing at least one pigment in a sufficient quantity for applying make-up to the skin, the lips and/or the superficial body growths and a liquid continuous fatty phase structured with at least one polymer having a weight-average molecular mass ranging from 500 to 500 000, containing at least one moiety comprising:

- at least one polyorganosiloxane group, consisting of 1 to 1 000 organosiloxane units in the chain of the moiety or in the form of a graft, and
- at least two groups capable of establishing hydrogen interactions chosen from ester, amide, sulphonamide, carbamate, thiocarbamate, urea, urethane, thiourea, oxamido, guanidino and biguanidino groups, and combinations thereof,

provided that at least one group is different from an ester group,

the polymer being solid at room temperature and soluble in the liquid fatty phase at a temperature of 25 to 250°C,

the said liquid fatty phase comprising at least one compound capable of lowering the enthalpy of fusion and possibly the melting temperature of the structuring polymer,

10 the pigment, the liquid fatty phase, the compound capable of lowering the enthalpy of fusion and possibly the melting temperature of the structuring polymer, and the structuring polymer forming a physiologically acceptable medium.

54. Composition according to any one of Claims 1 to 53, characterized in that it is provided in the form of a mascara, an eyeliner, a foundation, a lipstick, a blusher, a make-up product for the body, an
20 eyeshadow or a face powder, or a concealer product.

55. Cosmetic make-up method for the keratinous materials of human beings, comprising the application to the keratinous materials of a cosmetic composition according to one of the preceding claims.

56. Use, in a cosmetic composition comprising a pigment and a continuous liquid fatty phase structured with at least one polymer (homopolymer
30 or copolymer) having a weight-average molecular mass

ranging from 500 to 500 000, containing at least one moiety comprising:

- at least one polyorganosiloxane group, consisting of 1 to 1 000 organosiloxane units in the chain of the moiety or in the form of a graft, and
- at least two groups capable of establishing hydrogen interactions chosen from ester, amide, sulphonamide, carbamate, thiocarbamate, urea, urethane, thiourea, oxamido, guanidino and biguanidino groups, and combinations thereof, provided that at least one group is different from an ester group,

the polymer being solid at room temperature and soluble in the liquid fatty phase at a temperature of 25 to 250°C,

of a sufficient quantity of a compound capable of lowering the enthalpy of fusion and possibly the melting temperature of the polymer, so as to facilitate the application of the said composition and to increase the mass and/or the gloss of a deposit of the said composition.